

FACT SHEET

DRAFT CLASS 3 PERMIT MODIFICATION TO ADD EVAPORATOR TANK SYSTEM MISCELLANEOUS TREATMENT TO THE EXISTING HMWA/RCRA LIQUID WASTE MANAGEMENT SYSTEM STORAGE AND TREATMENT PERMIT FOR THE IDAHO NUCLEAR TECHNOLOGY AND ENGINEERING CENTER (INTEC) LOCATED AT THE IDAHO NATIONAL LABORATORY EPA ID NO. ID4890008952

This fact sheet sets forth the principal facts pertaining to a draft Class 3 Permit Modification Request the Idaho Department of Environmental Quality (DEQ) is proposing to approve. The request sets forth the applicable permit conditions the DEQ intends to require of the United States Department of Energy (DOE).

A. PURPOSE OF THE PERMITTING PROCESS

The purpose of the permitting process is to design specific administrative and operational requirements under which the Permittee will operate to comply with the Idaho Hazardous Waste Management Act (HWMA) of 1983, as amended, and regulations promulgated thereunder by the DEQ.

The requested modifications do not alter the ability of the Permittee to provide continued protection of human health and the environment.

The March 29, 2005 permit modification request to add the Evaporator Treatment System to the Volume 14 (ILWMS) Partial Permit was a compliance schedule requirement of the initial Volume 14 Partial Permit. Concurrent with the modification submittal, the applicant conducted the required sixty day comment period and public meeting. DEQ reviewed the modification request, reviewed public comments received, and required the DOE to revise its request. Now, DEQ proposes to approve the draft Class 3 Permit Modification.

B. PROCEDURES FOR REACHING A FINAL DECISION

IDAPA 58.01.05.013 [40 CFR § 124.10(b)(1)] requires that the public be given forty five (45) calendar days to comment on the draft Class 3 Permit Modification Request presented for approval under the HWMA. The comment period will begin on October 21, 2005, and will end at 5:00 p.m. on December 5, 2005. Any person interested in commenting must do so within this 45-calendar day comment period. The public participation process for a Class 3 Permit Modification is consistent with the process for a new permit application except **that only the draft modifications to the permit are open for public comment.** Comments on previously issued portions of the partial permit, by regulation, will not be considered. Changed text is indicated in the draft.

All persons wishing to comment on the modified portions of the Partial Permit should submit comments in writing to:

*Mr. Robert Bullock
c/o Teri Gregory
Waste and Remediation Division
Idaho Department of Environmental Quality
1410 North Hilton
Boise, ID 83706-1255
(208) 373-0502*

Comments should include all reasonable available references, factual grounds, and supporting material. As a Class 3 Permit Modification, only the Draft Permit conditions being addressed and/or modified are open for comment in accordance with IDAPA 58.01.05.013 [40 CFR § 124.5].

A public hearing will be held on November 29, 2005 at 7 p.m. at the Shiloh Inn, 780 Lindsay Blvd., Idaho Falls, Idaho 83402. The purpose of the hearing is to allow any person to submit written or oral comments and data concerning the draft modification to the permit. The Hearing Officer may place reasonable limits upon the time allowed for oral statements and the submission of statements in writing may be requested by the hearing officer.

When making the final decision regarding the Permit Modification, DEQ will consider all written comments received during any public comment period; comments received during the public hearing; the requirements of the hazardous waste regulations of IDAPA 58.01.05.000 et seq.; and all other applicable federal, state, or local laws.

C. FACILITY/UNIT DESCRIPTION

The INL is a large (approximately 890 square miles) DOE-owned facility, co-operated by DOE and various contractors, and located in Bingham, Butte, and Jefferson Counties, Idaho. The ILWMS is located within the INTEC fence on the INL and is used to treat aqueous mixed waste (hazardous and radioactive) that is generated at INTEC and other INL facilities. The ILWMS consists of three steam-heated separation treatment systems and associated tanks used for storage and pre-treatment of the waste.

Process Equipment Waste Evaporator (PEWE)

The first treatment system is the PEWE which is operating in accordance with the existing ILWMS HWMA Permit. The PEWE consists of two thermo-siphon distillation units that reduce the volume of mixed waste sent to the INTEC Tank Farm Facility. The PEWE has the capacity to treat 12,000 gallons per day. The PEWE creates two streams from its operation, a high volume, low hazard condensed vapor (overheads) and a low volume concentrated waste

(bottoms). The bottoms are transferred to the Tank Farm Facility, processed through the Evaporator Treatment System (ETS), or reprocessed through the PEWE. The overheads are characterized and returned to the PEWE or are further processed in the Liquid Effluent Treatment and Disposal (LET&D) system.

Liquid Effluent Treatment and Disposal (LET&D) System

The LET&D is the second treatment system which is also operating under the current ILWMS HWMA Permit, eliminating the need for surface disposal of the PEWE condensate stream. The LET&D also recovers nitric acid that is then reused in other INTEC processes.

Evaporator Tank System (ETS)

The ETS is the third steam-heated treatment unit. Pretreatment in the associated tanks includes pH adjustment, blending, settling, and chemical complexing to make the waste more amenable for treatment in the ILWMS.

The Evaporator Tank System is the primary subject of this modification request. The ETS is a distillation system with a maximum throughput of 12,000 gallons per day. The ETS reduces the volume of waste in the tank farm tanks however; the unit does not attempt to meet land disposal restriction requirements. The concentrated bottoms are transferred to the tank farm pending further treatment while the condensed overheads are returned to ILWMS tank storage for processing through the PEWE. ETS operations generate a low volume of off-gas post condenser. The off-gas passes through the INTEC Atmospheric Protection System before discharge through the INTEC main stack. The ETS is regulated as a miscellaneous unit and is not subject to process vent requirements.

The combined PEWE, LET&D and ETS operations have been determined to be protective of human health and the environment based on a risk analysis screening.

The Class 3 Permit Modification Request proposes the following additions/changes:

- Add the Evaporator Tank System to the ILWMS Partial Permit. Allows storage, pre-treatment and thermal treatment (distillation) in the tanks associated with the ETS in Building CPP659.
- Provides compliance schedule and technical data to upgrade the ancillary equipment associated with the West-side Waste Holdup Tanks.
- Additionally, changes reflecting the INL name change, completed activities, spelling corrections, acronym changes, and other minor modifications (Class 1 modification) to the permit are also proposed as a part of this Volume 14 (ILWMS) Partial Permit Modification.

PARTIAL PERMIT ORGANIZATION

The ETS units proposed to be added to the partial permit are subject to HWMA storage and treatment permitting requirements. The draft Permit Modification requires:

1. The owner/operator must operate the ETS treatment systems, as well as the tanks for storage and pre-treatment, in a manner that is protective of human health and the environment;
2. The operating conditions for the ETS, operating temperature, waste composition, condenser temperatures, and shut down criteria are set forth in the proposed modification;
3. The proposed waste analysis plan must be followed for every waste stream entering the ILWMS. Identification of a prohibited waste in the ILWMS prompts reporting and response requirements;
4. All permitted units shall have secondary containment capable of detecting and collecting releases, and which prevent any migration of waste or accumulated liquid out of the system to the soil, groundwater, or surface water;
5. The Permittee shall use appropriate controls and practices to prevent spills and overflows from the permitted units. Special conditions are added for VES-NCC-119 because of the design of that tank and containment system;
6. Upon detection of a leak or spill from the tank, associated piping, or the secondary containment system, or if any are determined to be unfit for use, the following shall occur: (1) immediately remove the system from service, (2) immediately stop the flow of hazardous waste, (3) within 24 hours remove as much of the waste as necessary to prevent further release of hazardous waste to the environment and to allow inspection and repair of the tank system and if all waste can not be removed from the sumps within that time period, submit a report to DEQ, and (4) report the incident if any releases to the environment have occurred;
7. The ETS does not contain a process vent as defined in the regulations. The ETS off-gas does not vent into the atmosphere either directly, through a vacuum-producing system, or through a tank. The ETS off-gas passes through both ETS off-gas and the INTEC Process Off-Gas System prior to discharge through the main INTEC stack. Therefore, the organic emissions from process vent regulations do not apply;
8. The Westside Waste Hold Up Tanks are not allowed to store or treat any additional amount of waste until the ancillary equipment and piping are upgraded. A compliance schedule calls for the tank equipment upgrades to commence by October 1, 2007 and be completed by October 1, 2009;

9. The Permittee must inspect data gathered from monitoring and leak detection equipment and overfill controls once each operating day. Visual inspections of the tank systems will be performed daily whenever a cell is entered for equipment maintenance or repairs;
10. The initial modification request included a tank that had been closed as part of the closure of the New Waste Calciner System. The facility withdrew the request to attempt to re-open this tank.
11. The tanks associated with the ILWMS, including the ETS, are not subject to the air emissions standards for tanks, IDAPA 58.01.05.008 [40 CFR 264 Subpart CC]. This is due to the fact that they are used solely for the management of mixed waste, and are, therefore, also subject to the authority of the Atomic Energy Act and the Nuclear Waste Policy Act.

The requirements listed above are in addition to the general requirements common to all hazardous waste permits. The Permittee must: a) ensure the site is secure, b) maintain proper records, c) prepare and plan for emergencies and/or releases to the environment, and d) ensure the personnel are trained to properly and safely perform their job functions. The following documents must be maintained at the facility: (1) a complete and current copy of the Permit including attachments and tables, (2) the waste analysis plan(s) for each hazardous waste management unit (HWMU), (3) the operating record, (4) inspection procedures, schedules, logs, and records, (5) personnel training requirements for each position and personnel training records for each individual involved with management or treatment of mixed waste at each HWMU, (6) the site-wide contingency plan and contingency plan(s) for each HWMU, and (7) the closure plan(s) for each HWMU.

E. PERMIT ORGANIZATION

The Partial Permit is divided into six sections, with nine Attachments, as follows:

MODULE	TITLE
I	Standard Permit Conditions
II	General Facility Conditions
III	Storage in Tanks
IV	Treatment in Tanks
V	Miscellaneous Treatment
VI	Corrective Action

ATTACHMENTS	TOPIC
1	Facility Description and RCRA Part A Application
2	Waste Analysis and Waste Acceptance
3	Security
4	Inspections
5	Training
6	Preparedness and Prevention
7	Contingency Plan
8	Closure Plan
9	Permit Modification Log

The proposed modifications were added to the appropriate section of the permit.